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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,559	05/27/2005	Falk H. Koenemann	30691/5101	5872

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EXAMINER

PATEL, PUNAM

ART UNIT

PAPER NUMBER

2855

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/509,559

Applicant(s)

KOENEMANN, FALK H.

Examiner

Punam Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 5/27/2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/14/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities: Claim 1 recites the limitations "the material properties" and "the external boundary conditions" in the fifth line of the claim. There is insufficient antecedent basis for these limitations in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claimed invention is a method for assessing deformations of a body within a system; the method comprises a collection of determining steps. The system is modeled/represented/defined by claimed abstract concepts (I.e. formulas, equations, and boundary conditions). The collection of determining steps that comprise the method is not "a practical application of an abstract idea" as required by *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d at 1373-74, 47 USPQ2d at 1596 (Fed. Cir. 1998). Furthermore, the claimed invention does not produce a "useful, concrete, and tangible

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result” as required by State Street. *State Street Bank & Trust Co. v. Signature Financial Group Inc.*, 149 F.3d at 1373-74, 47 USPQ2d at 1601-02. The analysis focuses specifically on claim 1; the dependent claims only add details on how the abstract concepts are used to model/define/represent the system, and have no separately statutory features.

The claims are non-transformatory. The claims do not recite any physically transformative operations either in the representation, through a formula, of the equilibrium forces or in the use of the formula. For example, the steps of taking into consideration a radius or the mechanical effect of a radius upon a system represented by a formula (claim 1, last line) “describe nothing more than the manipulation of basic mathematical constructs, the paradigmatic abstract idea.” *Warmerdam*, 33 F.3d at 1360, 31 USPQ2d at 1759. Furthermore, the determination of “the way an equilibrium of forces comes about” or the representation of “all acting forces” can be done by a (i) software package run by a computer, by (ii) physically drawing/diagramming the internal and external forces acting on the body, (iii) a mental process (dependent upon what external boundary conditions are assumed, or by (iv) a visual examination force/vector space plots (see applicant’s Fig.’s 1-13a). The claims lack a description of the process by which the equilibrium of forces is determined or a practical application of the representative formula (claim 1, last line).

The claims are not concrete. The claims leave open the question of what are “external boundary conditions.” The method of for assessing deformations of a body within a system, as set forth by the claims, is a compilation of data, independent of physical form. The specification

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provides a description of a process that only manipulates abstract ideas or concepts (wherein (i) the mathematical expression of a state of equilibrium and (ii) a system defined by externally controlled boundary conditions are read as abstract ideas and mathematical concepts). The invention set forth in the claims does not produce a tangible result.

Through the above analysis, it can be seen that merely “determining” would not appear to be sufficient to constitute a tangible result, since the outcome of the “determining” step has not been used in a disclosed practical application nor made available in such a manner that it’s usefulness in a disclosed practical application can be realized. Furthermore, the steps of “determining” do not involve any physical transformation of data, or produce any physically perceptible result outside of the abstraction of individual thought. For the abovementioned reasons, claims 1-10 are not statutory under 35 USC 101.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 5, and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 2, the limitation “as a function of location Q” is unclear. Is the location a specific point or a general area? Is the location a region or point (i) on the body upon which the

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forces are acting or (ii) external of the body? The limitation "material properties" is unclear.

Are material properties of the body or an external force applying structure?

As to claims 5 and 6, the limitation "the radius" is indistinct. The claims do not specify in exact terms what the shape of the thermodynamic system is (wherein the system maybe an abstract representation or a physical solid). Is the thermodynamic system in the shape of a sphere or hyperboloid?

No prior art rejection can be made at this time due the informal nature of the claims.

Conclusion

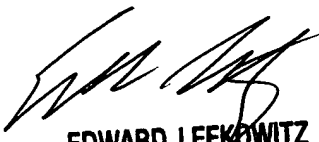
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Punam Patel whose telephone number is (571) 272-6794. The examiner can normally be reached on Monday to Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

PP
10/30/2006



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